

MODEL

W 6VB2

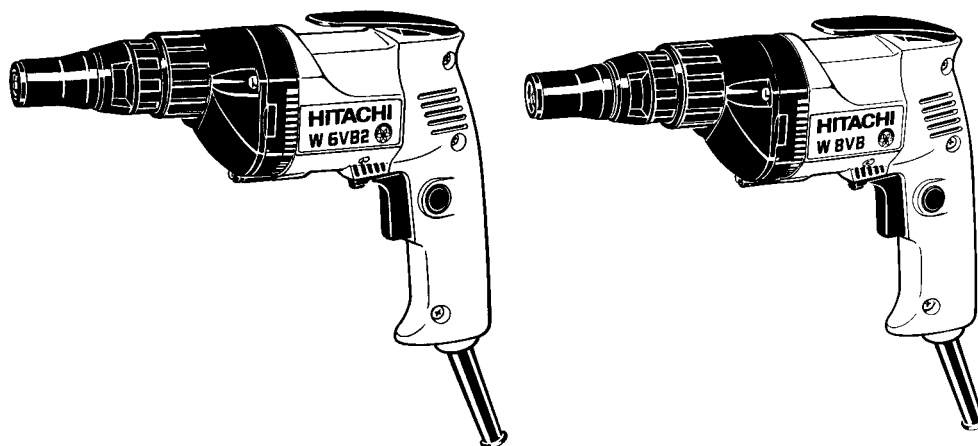
W 8VB

HITACHI

POWER TOOLS

**SCREW DRIVER
W 6VB2, W 8VB**

**TECHNICAL DATA
AND
SERVICE MANUAL**



LIST Nos. W 6VB2: 0780
W 8VB: 0781

Jul. 1999

REMARK:

Throughout this TECHNICAL DATA AND SERVICE MANUAL, a symbol(s) is(are) used in the place of company name(s) and model name(s) of our competitor(s). The symbol(s) utilized here is(are) as follows:

Model: W 6VB2

Symbols Utilized	Competitors	
	Company Name	Model Name
C	MAKITA	6802BV
B	BOSCH	GSR6-20TE (1423VSR)
P	DeWALT	DW266

Model: W 8VB

Symbol Utilized	Competitor	
	Company Name	Model Name
P	DeWALT	DW265

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1. PRODUCT NAME

Hitachi Screw Driver, Models W 6VB2
W 8VB

2. MARKETING OBJECTIVE

The W 6VB screw driver has been on the market for 14 years. The new W 6VB2/W 8VB are totally redesigned with an easy-to-grip body structure and other features in response to the diverse needs of customers. In particular, the W 8VB has been introduced to meet the demand for higher torque. Our market share is expected to grow with the release of these new models which broaden our lineup of screw drivers.

3. APPLICATIONS

Hex. and Teks screws: Fastening metal onto metal, or metal onto wood

- Exterior construction
- Installation of siding on buildings
- Installation of galvanized iron sheet or corrugated sheet roofing
- Plate assembly
- Assembly and mounting of advertising billboards
- Assembly of metal frames for vinyl greenhouses
- Assembly and installation of automobile stamped sections
- Various other interior/exterior construction and plate assembly jobs

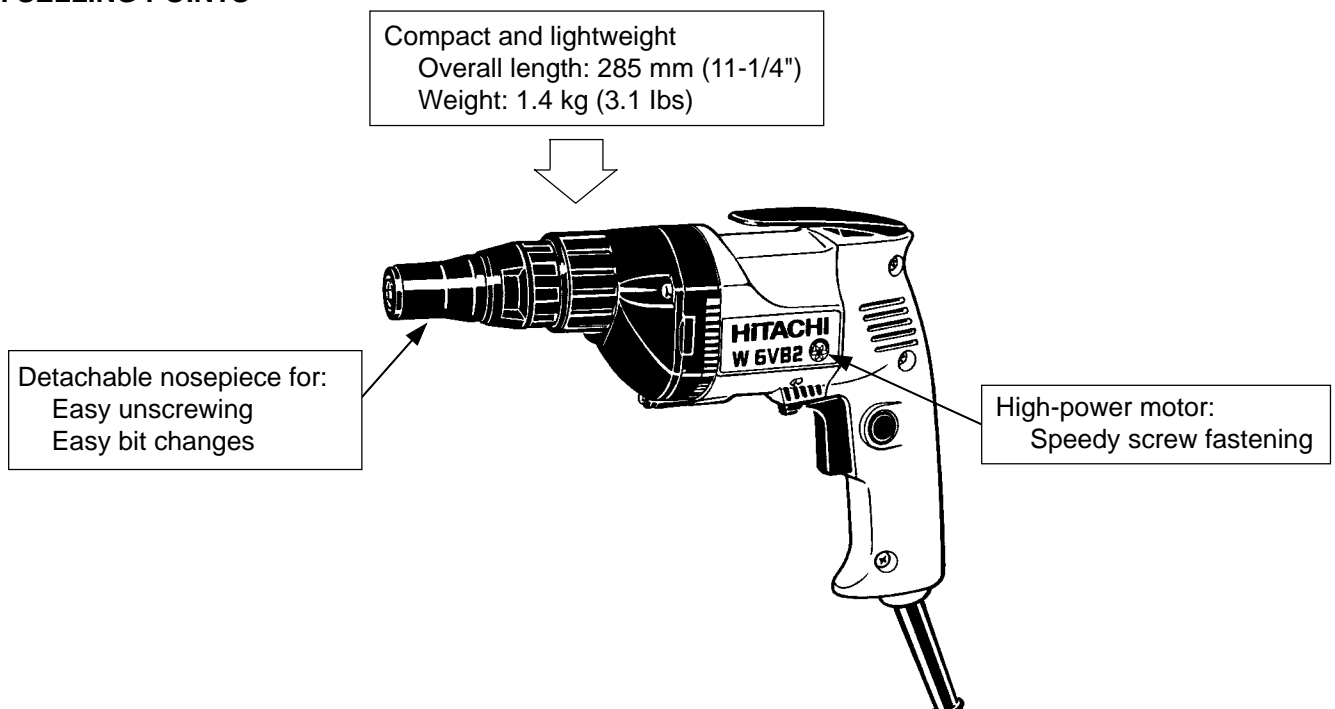
Drywall screws: Fastening metal studs and drywall

- Interior construction
- Installation of ceilings, paneling or partitions in offices, shops, supermarkets, apartment houses, schools, factories, etc.

Wood screws:

- Interior construction
- Assembly and installation of interior wood paneling,
- Installation of flooring in gymnasiums and similar buildings

4. SELLING POINTS



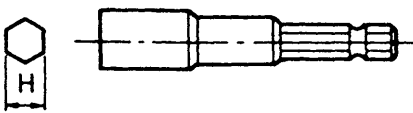
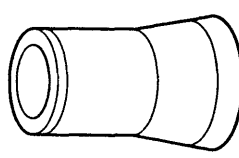
5. SPECIFICATIONS

5-1. Specifications



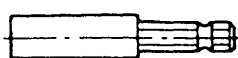
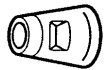
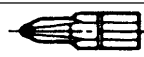


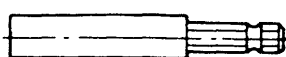
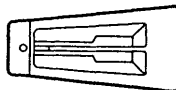
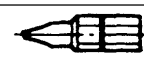
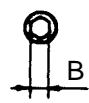

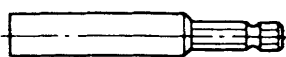
Model		W 6VB2	W 8VB
Capacity	Drywall screw	6 mm (1/4")	
	Self-drilling screw	6 mm (1/4")	
	Wood screw	5.8 mm dia. x 50 mm (7/32" dia. x 2")	
Bit mounting size		6.35 mm (1/4")	
Power source		Single phase, AC 50 Hz or 60 Hz	
Type of motor		Single phase, AC commutator motor	
Full-load current	U.S.A., Canada	6.4 A (115 V)	
	Other areas	5.9 A (110 V)	2.9 A (220 V) 2.8 A (230 V) 2.7 A (240 V)
Power input	U.S.A., Canada	640 W	
	Other areas	600 W	
No-load speed		0 – 2,600 /min	0 – 1,700 /min
Full-load speed		0 – 2,000 /min	0 – 1,200 /min
Enclosure		Housing, Handle cover, Inner cover and Gear cover Polyamide resin	
Switch		Variable switch with reversing switch	
Handle		Pistol grip handle	
Weight		Net 1.4 kg (3.1 lbs) (without cord) Gross 1.9 kg (4.2 lbs)	
Packaging		Corrugated cardboard box	
Cord	Type	Two core cabtire cable	
	Overall length	2.5 m (8.2 ft.)	
Standard accessory		Magnetic hexagon socket 1	

5-2. Optional Accessories

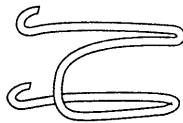
(1) For hex-head screws

Hex-socket		Sub-stopper (B)
		
Magnetic type	Non magnetic type	
H = 6.35 mm	H = 6.35 mm	H 1/4
H = 7.94 mm	H = 7.94 mm	H 5/16
H = 9.53 mm	H = 9.53 mm	H 3/8
H = 10 mm	H = 10 mm	

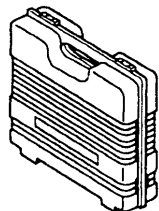
(2) For other screws

Screw head	Bit type		Bit holder	Sub-stopper
		No.1	 Magnetic bit holder (Short type)	 Sub-stopper (A)
		No.2		
		No.1	 Magnetic bit holder	 Sub-stopper (C)
		No.2		
		B size 4 mm 5 mm	 Non-magnetic bit holder	

(3) Hook



(4) Plastic case



Optional accessories are subject to change without notice.

6. COMPARISONS WITH SIMILAR PRODUCTS

6-1. W 6VB2

Maker			HITACHI		C	B	P
Model			W 6VB2	W 6VB			
Capacity	Self-drilling screw	mm	6	6	6	6.3	6
	Dry-wall screw	mm	6	5	6	—	—
	Wood screw	mm	5.8 dia. x 50	5.8 dia. x 50	—	—	—
Power input	U.S.A.	W	680	520	—	—	—
	Other areas		600	520	510	600	—
Voltage, Full-load current		V, A	115, 6.4	115, 5.0	115, 4.8	120, 5.5	120, 6.5
No-load rotation		/min	0 — 2600	0 — 2600	0 — 2500	0 — 2000	0 — 2600
No-load noise level		dB (A)	79	81	80	82	82
Max. output		W	640	550	485	560	540
Overall length		mm	285	290	265	305	300
Cord length		m	2.5	2.5	2.5	2.5	2.4
Weight		kg	1.4	1.7	1.7	1.9	1.6

6-2. W 8VB

Maker			HITACHI	P
Model			W 8VB	
Capacity	Self-drilling screw	mm	8	8
	Dry-wall screw	mm	6	—
	Wood screw	mm	6.2 dia. x 50	—
Power input	U.S.A.	W	680	—
	Other Areas		600	—
Voltage, Full-load current		V, A	115, 6.4	120, 6.5
No-load rotation		/min	0 — 1700	0 — 2000
No-load noise level		dB (A)	79	83
Max. output		W	640	540
Overall length		mm	285	300
Cord length		m	2.5	2.4
Weight		kg	1.4	1.6

6-3. Screw tightening time

Tables 1 and 2 show the relationship between thrust and tightening time based on factory tests. The tightening time may vary a little as screws are not necessarily uniform. The time information is for reference.

<W 6VB2>

Table 1

Tightening condition	Power source	Mean tightening time (sec.)				
		HITACHI		C	B	P
		W 6VB2	W 6VB			
Teks screw: 5 dia. x 25L (13/64" x 1") Mild steel plate: T3.2 (1/8")	120 V 60 Hz	2.70	—	3.00	—	2.90
	230 V 50 Hz	2.60	2.40	—	3.50	—
Teks screw: 5 dia. x 25L (13/64" x 1") Mild steel plate: T5 (13/64")	120 V 60 Hz	3.20	—	3.60	—	4.00
	230 V 50 Hz	3.60	3.40	—	4.80	—
Teks screw: 6 dia. x 25L (15/64" x 1") Mild steel plate: T3.2 (1/8")	120 V 60 Hz	2.70	—	2.80	—	3.30
	230 V 50 Hz	3.20	2.90	—	3.80	—
Teks screw: 6 dia. x 25L (15/64" x 1") Mild steel plate: T5 (13/64")	120 V 60 Hz	4.00	—	4.00	—	4.30
	230 V 50 Hz	4.20	3.90	—	5.70	—
Wood screw 5.8 dia. x 38L (7/32" x 1-1/2") Wood: Lauan	120 V 60 Hz	0.40	—	0.50	—	0.40
	230 V 50 Hz	0.60	0.55	—	0.75	—

<W 8VB>

Table 2

Tightening condition	Power source	Mean tightening time (sec.)	
		HITACHI	P
		W 8VB	
Teks screw: 5 dia. x 25L (13/64" x 1") Mild steel plate: T3.2 (1/8")	120 V 60 Hz	3.90	3.80
	230 V 50 Hz	4.00	—
Teks screw: 5 dia. x 25L (13/64" x 1") Mild steel plate: T5 (13/64")	120 V 60 Hz	5.30	4.90
	230 V 50 Hz	5.30	—
Teks screw: 6 dia. x 25L (15/64" x 1") Mild steel plate: T3.2 (1/8")	120 V 60 Hz	4.40	3.90
	230 V 50 Hz	4.00	—
Teks screw: 6 dia. x 25L (15/64" x 1") Mild steel plate: T5 (13/64")	120 V 60 Hz	5.50	5.40
	230 V 50 Hz	6.30	—
Wood screw: 5.8 dia. x 38L (7/32" x 1-1/2") Wood: Lauan	120 V 60 Hz	0.70	0.60
	230 V 50 Hz	0.70	—

7. PRECAUTIONS IN SALES PROMOTION

In the interest of promoting the safest and most efficient use of the Models W 6VB2 and W 8VB electric screwdrivers by all of our customers, it is very important that at the time of sales the salesperson carefully ensures that the buyer seriously recognizes the importance of the contents of the Handling Instructions, and fully understands the meaning of the precautions listed on the Caution Plate attached to each tool.

7-1. Handling Instructions

Although every effort is made in each step of design, manufacture and inspection to provide protection against safety hazards, the dangers inherent in the use of any electric power tool cannot be completely eliminated. Accordingly, general precautions and suggestions for the use of electric power tools, and specific precautions and suggestions for the use of the electric screwdriver are listed in the Handling Instructions to enhance the safe and efficient use of the tool by the customer. Salespersons must be thoroughly familiar with the contents of the Handling Instructions to be able to offer appropriate guidance to the customer during sales promotion.

7-2. Caution Plates

The following basic safety precautions are listed on the Name Plate attached to the main body of each tool. However, these precautions are not listed for European countries.

- For Asia and Oceania

CAUTION

- **Read thoroughly HANDLING INSTRUCTIONS before use.**

- For the U.S.A. and Canada

WARNING

- **To reduce the risk of injury, user must read and understand instruction manual**

AVERTISSEMENT

- **Afin de reduire le risque de blessures, l'utilisateur doit lire et bien comprendre le mode d'emploi.**

7-3. Screw Driving-Depth Adjustment

Information and suggestions for screw driving-depth selection for applicable screws are described in the Handling Instructions. The salesperson must be thoroughly familiar with screw driving-depth adjustment procedures to be able to instruct the customer/user in performing adjustment so that the screw neither protrudes above nor sinks excessively below the surface of the workpiece into which the screw is driven.

Specific adjustment procedures are as follows

(1) Head of screw protrudes above workpiece surface (Fig. 1)

If dimension A in Fig. 3 is excessively small, the head of the driven screw will protrude above the surface of the workpiece material as shown in Fig. 1. To adjust dimension A, pull the lock sleeve in the direction indicated by the arrow in Fig. 3 to disengage the lock sleeve from the gear cover spline, and rotate the lock sleeve clockwise as viewed from the screw mounting end (see Note below). Repeat adjustment as necessary until the head of the driven screw is properly aligned with the surface of the workpiece.

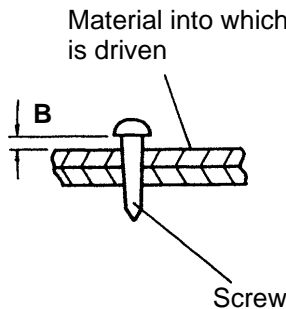


Fig. 1

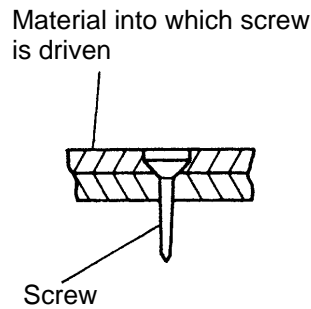


Fig. 2

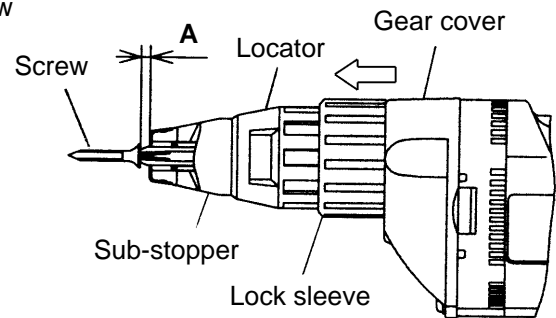


Fig. 3

(2) Head of screw sinks below workpiece (Fig. 2)

If dimension A in Fig. 3 is excessively large, the head of the driven screw will sink below the surface of the workpiece as shown in Fig. 2. To perform adjustment, follow the procedures described in item (1) above, but rotate the lock sleeve counter-clockwise.

Should Hex and Teks screws be driven when dimension A is excessively large, both the screws and bits may be easily damaged. Instruct customers/users to perform adjustment correctly without fail.

(NOTE) By turning the lock sleeve clockwise or counter-clockwise, dimension A in Fig. 3 can be adjusted within a maximum dimension of 1.5 mm (0.059"). One complete rotation of the lock sleeve is divided into ten settings, each setting permitting an adjustment of 0.15 mm (0.006"). Accordingly, if dimension B in Fig. 1 is 0.3 mm (0.012"), rotate the lock sleeve by two settings.

7-4. Self-Drilling Screws

Self-drilling screws are most suitable for joining wooden and metal materials, mounting metallic components onto iron sheets, or installing roofing materials. Self-drilling and self-tapping, they are commonly employed in the construction industry because:

- Separate drilling and tapping processes are not required when securing wooden materials to metal materials.
- Consequently, job costs and processes can be drastically reduced.

7-5. Drywall Screws

Drywall screws are most suitable for interior decorating and construction utilizing such materials as gypsum board and plastic board. Their main features are:

- Like Hex and Teks screws, drywall screws are self-drilling, and can reduce work time.
- Wall panels can be mounted cleanly without cracks or chips.
- Drywall screws display far stronger holding power than conventional screws when applied to materials composed of powder or particles, such as gypsum board.

7-6. Variable-Speed Switch

This switch is equipped with a variable speed control circuit. Through the control circuit, the speed can be controlled up to 75 % of maximum speed according to the degree at which the switch is depressed.

A disadvantage of this system is that if the bit becomes locked resulting in stoppage of the motor, the speed control circuit may be burnt out. In such a case, the switch should be released immediately or turned OFF. To avoid damage to the switch circuit, the customer should be advised to increase driving speed gradually until the screw is driven approximately halfway into the workpiece, then depress the trigger to obtain optimum speed.

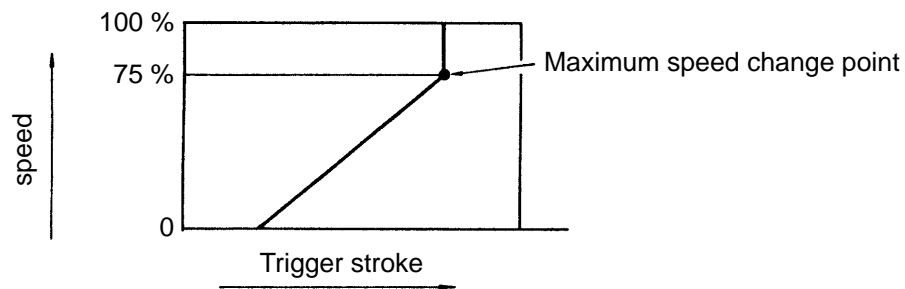


Fig. 4

Switch characteristics (Approximately shown converted into the linear line)

8. PRECAUTIONS IN DISASSEMBLY AND REASSEMBLY

The **[BOLD]** numbers in the descriptions below correspond to the item numbers in the Parts List and the exploded assembly diagram.

8-1. Disassembly

A. Disassembly of the parts within the handle

(1) Removal of the Handle Cover

Loosen the three Tapping Screws D4 x 20 **[31]**, and remove the Handle Cover **[29]**.

(2) Removal of the Carbon Brushes

With a small flat-blade screwdriver, lift up on the Brush Holder **[36]**, and pull it out slightly.

Next, pull out the terminal portion which connects the two Carbon Brushes **[35]** and the lead wires from the Speed Control Switch **[32]**. When pulling the terminal, it is best to push the Carbon Brushes fully into the Brush Holder.

(3) Removal of the Cord

Loosen the two Tapping Screws D4 x 16 **[44]** which retain the Cord Clip **[45]**, and remove the Cord **[48]** together with the Cord Armor **[46]**.

B. Removal of the armature and stator

(1) Removal of the Armature

Remove the three Tapping Screws D4 x 40 **[9]** from the Gear Cover Ass'y **[10]**, and remove the Inner Cover Ass'y **[23]** from the Housing **[29]**. The Armature **[25]** can then be taken out.

(2) Removal of the Stator

First, remove the Fan Guide **[26]** from the inside of the Housing.

Then, loosen the two Tapping Screws D4 x 50 **[27]**, and lightly tap the end surface of the Housing **[29]** with a wooden hammer to loosen and remove the Stator **[28]**.

C. Removal of the socket (B) ass'y, gear ass'y and second pinion ass'y

- (1) Remove the Gear Cover Ass'y [10] and the Inner Cover Ass'y [23], then the Socket (B) Ass'y [12], Gear Ass'y [15] and Second Pinion Ass'y [20] can be removed. If the Gear Ass'y [15] is hard to remove, lightly tap the end surface of the Inner Cover Ass'y [23] with a wood hammer. If the Second Pinion Ass'y [20] is hard to remove, lightly tap the end surface of the Gear Cover Ass'y [10] with a wood hammer. Be careful not to lose the Spring [14] on the outer circumference of the Gear Shaft [16] and the Washer [22] on the outer circumference of the Second Pinion Ass'y [20].

As shown in Fig. 5, insert two flat-blade screwdrivers between the Inner Cover Ass'y [23] and Gear Ass'y [15] at each side and remove the Gear Ass'y [15], Gear Shaft [16] and Ball Bearing [17] from the Inner Cover Ass'y as a single unit.

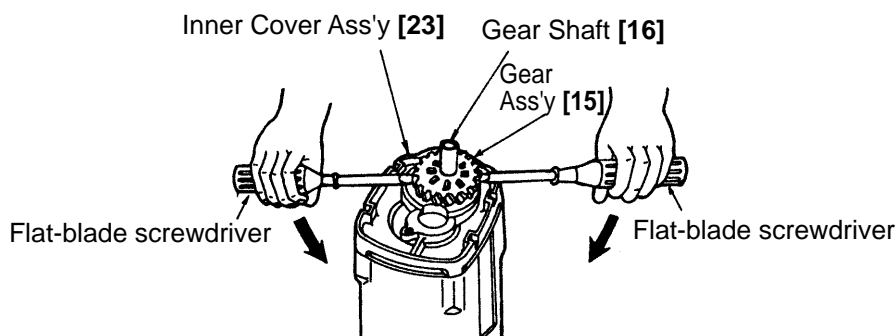


Fig. 5

8-2. Reassembly

Reassembly can be accomplished by following the disassembly procedures in reverse. However, special attention should be given to the following items.

(1) Lubrication

Grease: Hitachi Motor Grease (Code No. 930035)

Application:

- (a) Fill a moderate amount of grease in the Gear Cover Ass'y [10]. (If the Gear Cover Ass'y is new, fill it with 7 g of grease.)
- (b) Outer circumference and clutch of the Socket (B) Ass'y [12]
- (c) Teeth and clutch of the Gear Ass'y [15]
- (d) Outer circumference of the Gear Shaft [16]
- (e) Teeth and outer circumference of the Second Pinion Ass'y [20]
- (f) Teeth of the First Gear [21]
- (g) Pinion of the Armature [25]

(2) Tightening torque

- Handle cover retaining screws 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Cord clip retaining screws 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Gear cover retaining screws 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Stator retaining screws 15 – 25 kg•cm (13.0 – 21.7 lbs-in)
- Speed control switch retaining screws 4 – 8 kg•cm (3.5 – 6.9 lbs-in)

8-3. Wiring Diagrams

(1) Products with noise suppressor

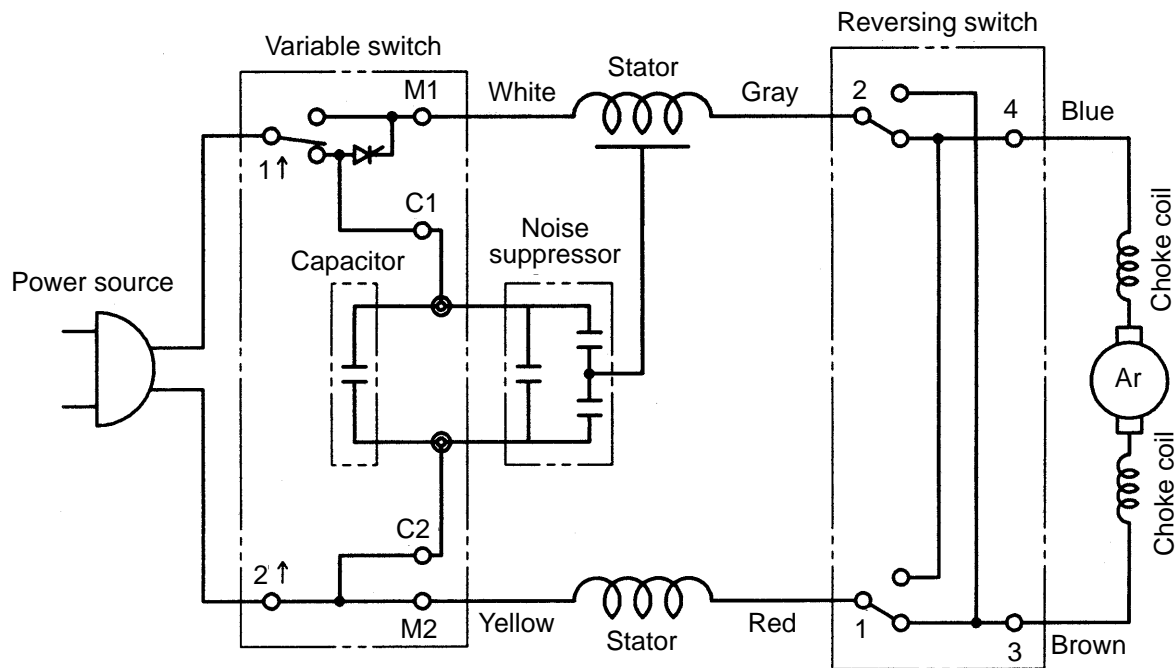


Fig. 6

(2) Products without noise suppressor

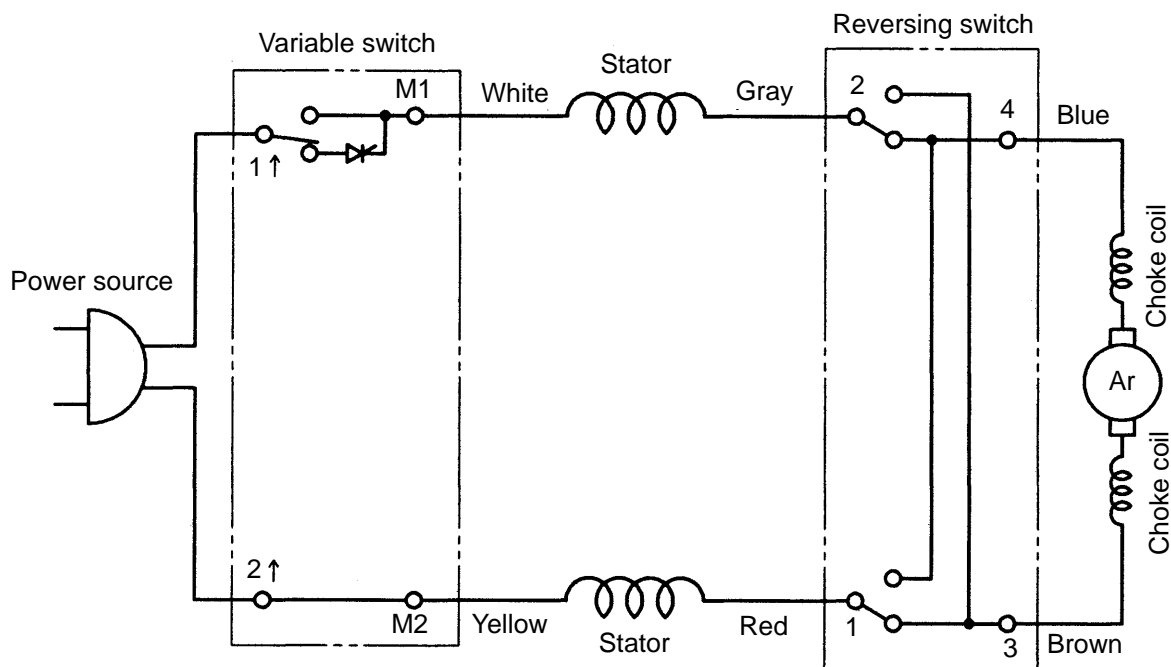


Fig. 7

8-4. Internal Wire Arrangement and Wiring Work

A. Internal wire arrangement

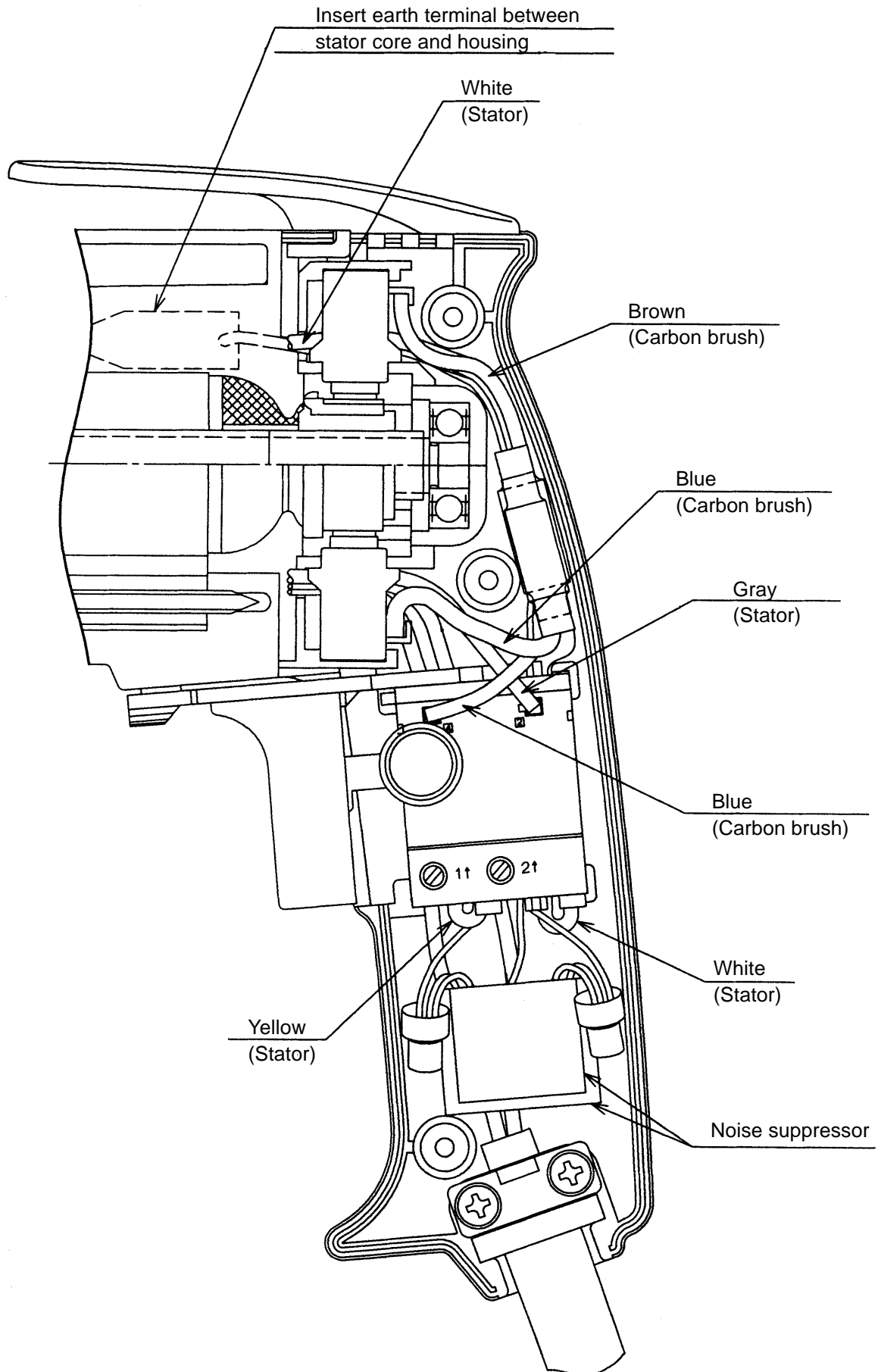


Fig. 8 Schematic diagram

B. Additional wiring work

General internal wiring can be accomplished by referring to paragraph 8-3 and 8-4-A. The followings are special instructions for switch connection.

(1) Wiring of reversing switch

Insert the lead wire (red) coming from the stator into the terminal (1) of the reversing switch, and the lead wire (gray) into the terminal (2) as shown in Fig. 9. Insert the lead wire (brown) coming from the carbon brush into the terminal (3) and the lead wire (blue) into the terminal (4). After insertion, pull each lead wire slightly to check that the lead wires do not come off. To disconnect the lead wires, insert a small flat-blade screwdriver into the slots near the terminals and pull out the lead wires.

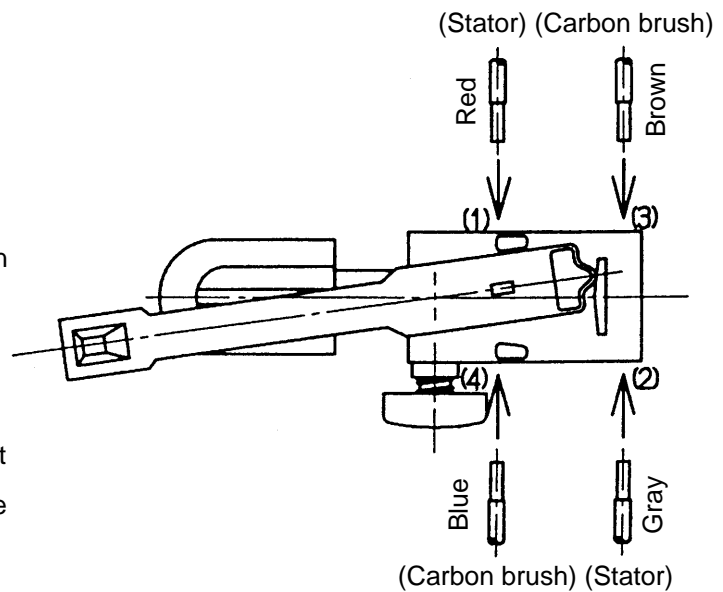


Fig. 9 Wiring of reversing switch

(2) Wiring of variable speed control switch

Insert each cord into the terminal 1 ↑ and terminal 2 ↑ of the speed control switch as shown in Fig. 10, and tighten the screw [tightening torque: $0.6 \pm 0.2 \text{ N}\cdot\text{m}$ ($6 \pm 2 \text{ kgf}\cdot\text{cm}$, $5.2 \pm 1.7 \text{ lbs-in}$)]. Insert the lead wire (white) coming from the stator into the terminal M1 and the lead wire (yellow) into the terminal M2. Insert each lead wire (white) coming from the noise suppressor into the terminal C1 and C2. After insertion, pull each lead wire slightly to check the lead wires do not come off. To disconnect the lead wires, insert a small flat-blade screwdriver into the slots near the terminals and pull out the lead wires.

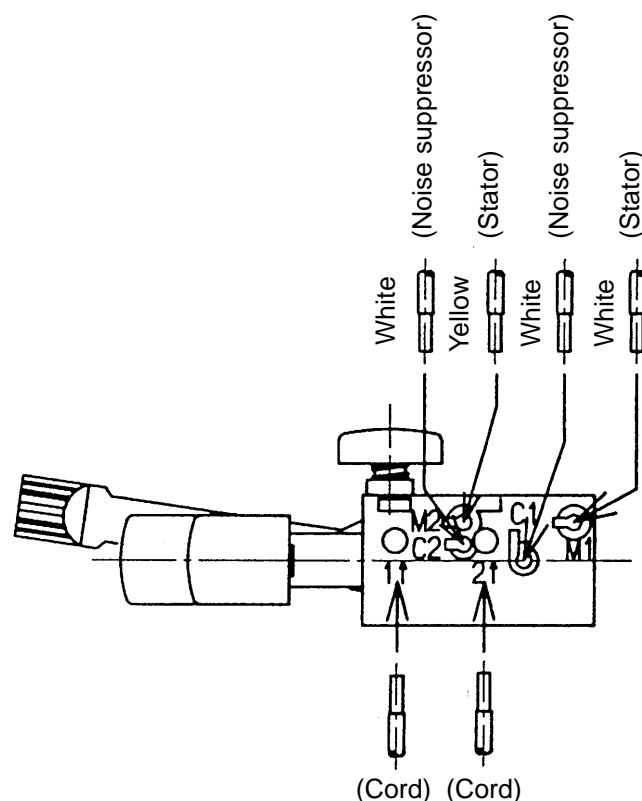


Fig. 10 Wiring of speed control switch

8-5. Insulation Tests

On completion of reassembly after repair, measure the insulation resistance and conduct the dielectric strength test.

Insulation resistance: $7 \text{ M } \Omega$ or more with DC 500 V Megohm Tester

Dielectric strength: AC 4,000 V/1 minute, with no abnormalities 220 V – 240 V (and 110 V for U.K. products)
AC 2,500 V/1 minute, with no abnormalities 110 V – 127 V (except for U.K. products)

8-6. No-load Current Values

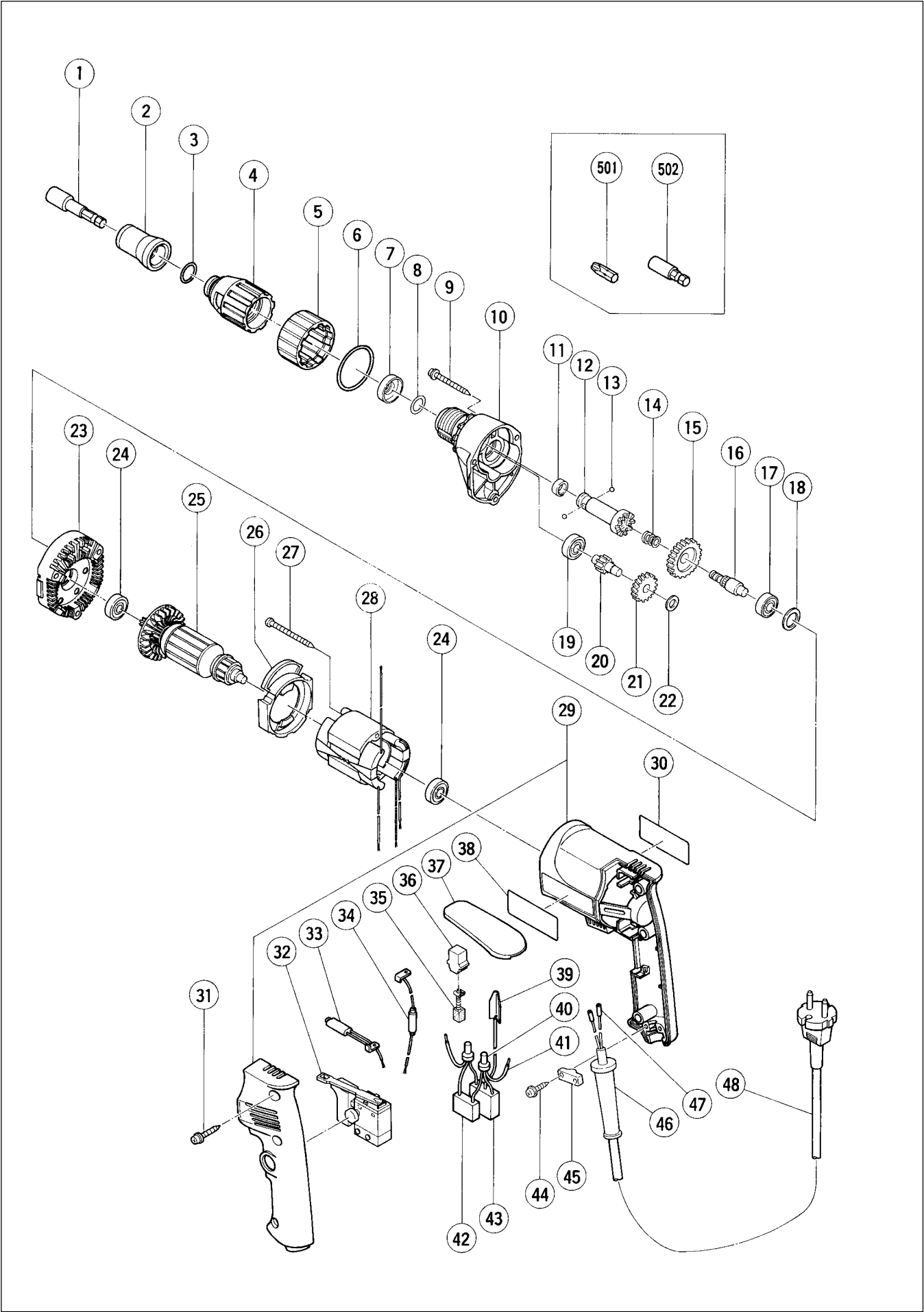
After no-load operation for 30 minutes, the no-load current value should be as follows

Voltage (V)	110	115	120	220	230	240
Current (A) max.	2.5	2.5	2.5	1.2	1.2	1.1

9. STANDARD REPAIR TIME (UNIT) SCHEDULES

MODEL	Variable		10	20	30	40	50	60 min.
	Fixed							
<div>W 6VB2</div> <div>W 8VB</div>	<div>General Assembly</div>	Work Flow						
		Speed control switch						
		Cord Armor			Housing.Handle			
		Cord			Cover Set			
		Carbon Brush x 2			Stator			
					Armature			
					Ball Bearing (608VV) x 2			
					Inner Cover Ass'y			
			Spring					
			Gear Ass'y					
			Gear Shaft					
			Ball Bearing (608VV) x 2					
			Second Pinion Ass'y					
			First Gear					
			Gear Cover Ass'y					
			Set Ring					
			Socket (B) Ass'y					
			Steel Ball D3.175					

Assembly Diagram for W 6VB2



PARTS

W 6VB2

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	1	985-322	MAGNETIC HEX. SOCKET 5/16"X65L	1	FOR AUS,GBR,NOR,USA
*	1	985-321	MAGNETIC HEX. SOCKET 10MMX65L	1	FOR HOL,FIN,CHN
*	2	317-670	SUB STOPPER (B) FOR H3/8,H10 HEX. SOCKET	1	FOR HOL,FIN,CHN
*	2	317-671	SUB STOPPER (B) FOR H5/16 HEX. SOCKET	1	FOR AUS,GBR,NOR,USA
*	2	317-673	SUB STOPPER (C) FOR BIT HOLDER (75L)	1	FOR FRG
*	2	317-672	SUB STOPPER (A) FOR BIT HOLDER (41L)	1	FOR FRG,FRA,HOL,AUT
*	2	317-899	SUB STOPPER (D) FOR HEX. SOCKET	1	FOR FRA
	3	876-031	O-RING (S-16)	1	
	4	317-666	LOCATOR (A)	1	
	5	317-665	LOCK SLEEVE (A)	1	
	6	873-731	O-RING (S-28)	1	
	7	971-468	FRINGER (A)	1	
	8	317-662	O-RING (F)	1	
	9	306-664	TAPPING SCREW (W/FLANGE) D4X40	3	
	10	317-661	GEAR COVER ASS'Y	1	INCLUD.8,19
	11	872-573	SET RING	1	
	12	317-664	SOCKET (B) ASS'Y	1	INCLUD.11,13
	13	959-148	STEEL BALL D3.175 (10 PCS.)	2	
	14	306-024	SPRING	1	
	15	317-771	GEAR ASS'Y	1	INCLUD.16
	16	307-340	GEAR SHAFT	1	
	17	608-VVM	BALL BEARING 608VVMC2EPS2L	1	
	18	987-641	WASHER (A)	1	
	19	608-VVM	BALL BEARING 608VVMC2EPS2L	1	
	20	317-770	SECOND PINION ASS'Y	1	INCLUD.21
	21	317-772	FIRST GEAR	1	
	22	317-663	WASHER	1	
	23	317-660	INNER COVER ASS'Y	1	INCLUD.17,18
	24	608-VVM	BALL BEARING 608VVMC2EPS2L	2	
*	25	360-492C	ARMATURE 110V	1	
*	25	360-492U	ARMATURE ASS'Y 115V	1	INCLUD.24
*	25	360-492E	ARMATURE 220V-230V	1	
*	25	360-492F	ARMATURE 240V	1	
	26	305-398	FAN GUIDE (B)	1	
	27	950-515	TAPPING SCREW D4X50	2	
*	28	340-436C	STATOR 110V-115V	1	
*	28	340-436E	STATOR 220V-230V	1	
*	28	340-224F	STATOR 240V	1	
	29	317-659	HOUSING.HANDLE COVER SET	1	
	30		NAME PLATE	1	
	31	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	3	
*	32	314-916	SPEED CONTROL SWITCH (2P) 100V-115V	1	FOR GBR (110V),USA
*	32	314-921	SPEED CONTROL SWITCH (2P) 220V-240V	1	
*	33	317-668	INTERNAL WIRE (A)	1	FOR AUS,GBR,FRG,FRA,HOL,FIN,AUT,NOR
*	33	314-917	INTERNAL WIRE (B) (BLUE)	1	FOR USA
*	34	317-669	INTERNAL WIRE (B)	1	FOR AUS,GBR,FRG,FRA,HOL,FIN,AUT,NOR
*	34	314-918	INTERNAL WIRE (B) (BROWN)	1	FOR USA
	35	999-041	CARBON BRUSH (1 PAIR)	2	
	36	955-203	BRUSH HOLDER	2	
	37	317-676	HOOK (A)	1	
	38		HITACHI LABEL	1	

PARTS

W 6VB2

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* : ALTERNATIVE PARTS

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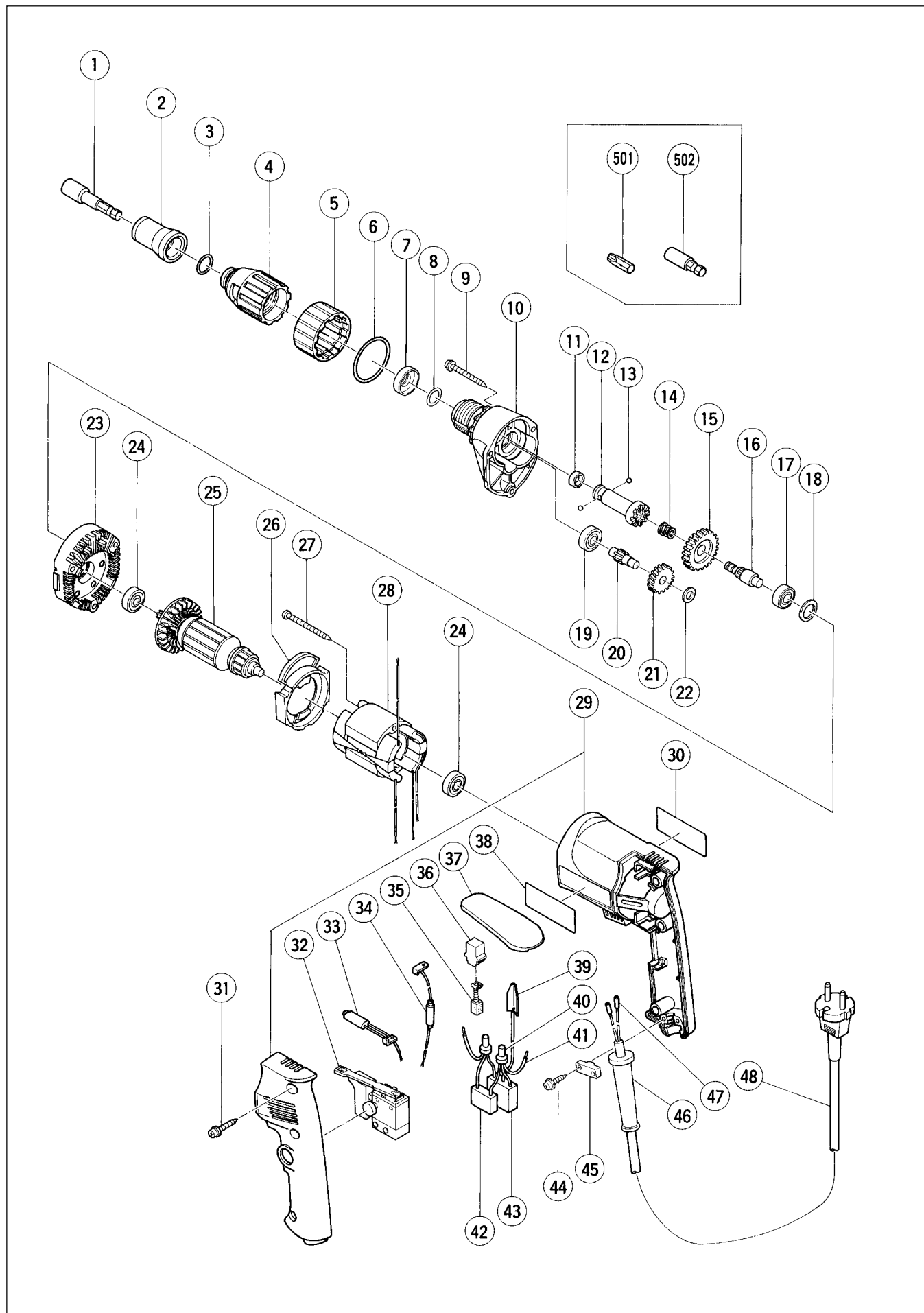
W 6VB2

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OPTIONAL ACCESSORIES

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Assembly Diagram for W 8VB



PARTS

W 8VB

ITEM NO.	CODE NO.	DESCRIPTION	NO. USED	REMARKS	
*	1	985-321	MAGNETIC HEX. SOCKET 10MMX65L	1	FOR HOL,FIN,ESP,CHN
*	1	985-322	MAGNETIC HEX. SOCKET 5/16"X65L	1	FOR AUS,NOR,USA
*	2	317-670	SUB STOPPER (B) FOR H3/8,H10 HEX. SOCKET	1	FOR HOL,FIN,ESP,CHN
*	2	317-671	SUB STOPPER (B) FOR H5/16 HEX. SOCKET	1	FOR AUS,NOR,USA
*	2	317-672	SUB STOPPER (A) FOR BIT HOLDER (41L)	1	FOR FRG,FRA,HOL
*	2	317-673	SUB STOPPER (C) FOR BIT HOLDER (75L)	1	FOR FRG
*	2	317-899	SUB STOPPER (D) FOR HEX. SOCKET	1	FOR FRA
	3	876-031	O-RING (S-16)	1	
	4	317-666	LOCATOR (A)	1	
	5	317-665	LOCK SLEEVE (A)	1	
	6	873-731	O-RING (S-28)	1	
	7	971-468	FRINGER (A)	1	
	8	317-662	O-RING (F)	1	
	9	306-664	TAPPING SCREW (W/FLANGE) D4X40	3	
	10	317-661	GEAR COVER ASS'Y	1	INCLUD.8,19
	11	872-573	SET RING	1	
	12	317-664	SOCKET (B) ASS'Y	1	INCLUD.11,13
	13	959-148	STEEL BALL D3.175 (10 PCS.)	2	
	14	306-024	SPRING	1	
	15	307-339	GEAR ASS'Y	1	INCLUD.16
	16	307-340	GEAR SHAFT	1	
	17	608-VVM	BALL BEARING 608VVMC2EPS2L	1	
	18	987-641	WASHER (A)	1	
	19	608-VVM	BALL BEARING 608VVMC2EPS2L	1	
	20	317-887	SECOND PINION ASS'Y	1	INCLUD.21
	21	317-772	FIRST GEAR	1	
	22	317-663	WASHER	1	
	23	317-660	INNER COVER ASS'Y	1	INCLUD.17,18
	24	608-VVM	BALL BEARING 608VVMC2EPS2L	2	
*	25	360-492U	ARMATURE ASS'Y 115V	1	INCLUD.24
*	25	360-492E	ARMATURE 220V-230V	1	
*	25	360-492F	ARMATURE 240V	1	
	26	305-398	FAN GUIDE (B)	1	
	27	950-515	TAPPING SCREW D4X50	2	
*	28	340-436C	STATOR 110V-115V	1	
*	28	340-436E	STATOR 220V-230V	1	
*	28	340-224F	STATOR 240V	1	
	29	317-659	HOUSING.HANDLE COVER SET	1	
	30		NAME PLATE	1	
	31	302-086	TAPPING SCREW (W/FLANGE) D4X20 (BLACK)	3	
*	32	314-916	SPEED CONTROL SWITCH (2P) 100V-115V	1	FOR USA
*	32	314-921	SPEED CONTROL SWITCH (2P) 220V-240V	1	
*	33	317-668	INTERNAL WIRE (A)	1	EXCEPT FOR USA
*	33	314-917	INTERNAL WIRE (B) (BLUE)	1	FOR USA
*	34	317-669	INTERNAL WIRE (B)	1	EXCEPT FOR USA
*	34	314-918	INTERNAL WIRE (B) (BROWN)	1	FOR USA
	35	999-041	CARBON BRUSH (1 PAIR)	2	
	36	955-203	BRUSH HOLDER	2	
	37	317-676	HOOK (A)	1	
	38		HITACHI LABEL	1	
*	39	992-635	EARTH TERMINAL	1	FOR NOISE SUPPRESSOR

PARTS

W 8VB

[illegible]

*** : ALTERNATIVE PARTS**

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W 8VB

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601	602
603	604
605	606
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619	620
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623	624